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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,358	03/05/2007	Frank L. Rees	Greene-P1-04	1708

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Peter K Trzyna
P O Box 7131
Chicago, IL 60680-7131

EXAMINER

LOBO, IAN J

ART UNIT	PAPER NUMBER
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3662

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03/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,358	Applicant(s) REES, FRANK L.	
	Examiner Ian J. Lobo	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-236 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-236 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

- I. Embodiment wherein the step of and means for identifying the object includes forming an image of the object.
- II. Embodiment wherein the step of and means for identifying a material of the object includes comparison of wavelets.
- III. Embodiment wherein the step of and means for receiving includes receiving secondary wavelets.
- IV. Embodiment wherein the step of and means for directing includes manipulating the beam width of the waveform.
- V. Embodiment wherein the step of and means for identifying the object includes processing.

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a. Upon election of Species I above, the Applicant is further required to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

A. the step of and means for identifying wherein the object is a weapon.

B. the step of and means for identifying wherein the object is a radioactive substance.

C. the step of and means for identifying wherein the object is an explosive.

D. the step of and means for identifying wherein the object is a biological material.

E. the step of and means for identifying wherein the object is a chemical.

F. the step of and means for identifying wherein the object is a drug.

G. the step of and means for identifying wherein the object is a land mine.

H. the step of and means for identifying wherein the object is an underwater mine.

I. the step of and means for identifying wherein the object is an archeological site.

J. the step of and means for identifying wherein the object is a pipe.

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- K. the step of and means for identifying wherein the object is an underground composition.
- L. the step of and means for identifying wherein the object is a hydrocarbon.
- M. the step of and means for identifying wherein the object includes forming a land seismographic stratification image.
- N. the step of and means for identifying wherein the object includes forming a marine water stratification image.
- O. the step of and means for identifying wherein the object includes an element.
- P. the step of and means for identifying wherein the object includes a molecule.
- Q. the step of and means for identifying wherein the object includes an isotope.
- R. the step of and means for identifying includes determining an object is present.
- S. the step of and means for identifying includes determining an object is not present.

b. Upon election of Species IV above, the Applicant is further required to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

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- A. the step of and means for directing includes directing the pulse at an object concealed in a container.
- B. the step of and means for directing includes directing the pulse at a piece of luggage.
- C. the step of and means for directing includes directing the pulse at a motor vehicle
- D. the step of and means for directing includes directing the pulse at a watercraft.
- E. the step of and means for directing includes directing the pulse at an aircraft.
- F. the step of and means for directing includes directing the pulse at a nuclear reactor.
- G. the step of and means for directing includes directing the pulse at a human.
- H. the step of and means for directing includes directing the pulse at a building.
- I. the step of directing includes shaping the acoustic waveform into a Gaussian envelope.
- J. the step of and means for directing includes directing from a hovercraft.
- K. the step of and means for directing includes directing from a drone.
- L. the step of and means for directing includes directing from a buoy.

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- M. the step of and means for directing includes directing from a hand-held device.
- N. the step of and means for directing includes directing from a toll booth.
- O. the step of and means for directing includes directing from a passage-way device.
- P. the step of and means for directing includes directing is carried out in the frequency range of 40-80 KHz.
- Q. the step of and means for directing includes directing is carried out in the frequency range of 0-40 KHz.
- R. the step of and means for directing includes directing is carried out in the frequency range of 2-4 KHz.
- S. the step of and means for directing includes directing is carried out in the frequency range of 909-1091 Hz.
- T. the step of and means for directing includes directing is carried out in the frequency range of 2.5-7.5 Hz.
- U. the step of and means for directing includes producing the waveform with a transducer.
- V. the step of and means for directing includes producing the waveform with a far-field projector.
- W. the step of directing includes contiguous filters.

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c. Upon election of Species III above, the Applicant is further required under to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

- A. the step of and means for receiving includes discerning the non-linear effect as associated with elastic scattering.
- B. the step of and means for receiving includes discerning the non-linear effect as associated with inelastic scattering.

d. Upon election of Species III(5)(A) above, the Applicant is further required to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

- A. the step of and means for discerning includes discerning a ratio of a nonlinear coefficient to a bulk modulus.
- B. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to air.
- C. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to water.
- D. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to land.

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e. Upon election of Species V above, the Applicant is further required to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

- A. the step of and means for processing includes discriminating a distortion of a secondary wavelet.
- B. the step of and means for processing includes characterizing the distortion.
- C. the step of and means for processing includes separating elastic scattering and inelastic scattering.
- D. the step of and means for processing includes processing the wavelets to form pixels.

2. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Note that the generic claims 1, 115, 116 and 230 do not include a special technical feature in light of the reference to Sen et al and Rees et al, cited in the pending parent application 10/722,648.

3. Applicant's arguments with respect to the initial restriction requirement is considered and found convincing with respect to the National Stage of the PCT

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application. However, the election of species requirement is still deemed proper under PCT requirements.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian J. Lobo/
Primary Examiner
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